

EQUATIONS IN QUADRATIC FORM

PART A

1. $\pm 1, \pm 2$
2. $\pm\sqrt{5}$
3. $\pm\frac{\sqrt{10}}{2}, \pm 1$
4. $\pm\frac{\sqrt{6}}{2}, \pm\frac{\sqrt{2}}{2}$
5. $\pm 1, \pm\frac{\sqrt{3}}{3}i$
6. $\pm\frac{\sqrt{6}}{2}i, \pm 2$
7. $\pm\sqrt{3}, \pm i\sqrt{5}$
8. $\pm\frac{\sqrt{15}}{3}, \pm i\sqrt{5}$
9. $\pm\frac{\sqrt{-1+\sqrt{17}}}{2}, \pm\frac{\sqrt{1+\sqrt{17}}}{2}i$
10. $\pm\sqrt{4+2\sqrt{3}}, \pm\sqrt{4-2\sqrt{3}}$
11. $-2, 1\pm i\sqrt{3}, 1, -\frac{1}{2}\pm\frac{\sqrt{3}}{2}i$
12. $2, -1\pm i\sqrt{3}, -1, \frac{1}{2}\pm\frac{\sqrt{3}}{2}i$

13. $\frac{-9\pm\sqrt{161}}{10}$
14. $\frac{-3\pm\sqrt{41}}{8}$
15. $-\frac{1}{3}, \frac{7}{2}$
16. $-\frac{5}{2}, \frac{1}{9}$

17. 16
18. 4
19. 0
20. 0, 64
21. 1
22. 16
23. $\left(\frac{9\pm\sqrt{17}}{8}\right)^4$
24. 16, 1

PART B

1. $-\frac{11}{14}, -\frac{2}{7}$
2. $\frac{5}{9}, \frac{2}{3}$
3. $\frac{-8\pm\sqrt{2}}{2}$
4. $\frac{1}{10}\pm\frac{\sqrt{5}}{10}i$
5. $-\frac{3}{2}, -2$
6. $\frac{9}{4}, \frac{4}{3}$
7. $\frac{8\pm\sqrt{3}}{10}, \frac{8\pm\sqrt{2}}{10}$
8. $\frac{-6\pm 2\sqrt{3}}{9}, \frac{-4\pm\sqrt{2}}{6}$
9. $\pm i\sqrt{3}, \pm 2$
10. $\pm\frac{\sqrt{6}}{3}i, \pm\frac{\sqrt{30}}{3}i$

11. $\pm\frac{2\sqrt{6}}{3}, \pm 1$
12. $\pm i\sqrt{6}, \pm\sqrt{5}$
13. $\pm\frac{\sqrt{6}}{3}i, \pm i\sqrt{3}$
14. $0, \pm i\sqrt{6}$
15. $-\frac{4}{5}, -2$
16. $\frac{7}{6}, \frac{1}{2}$

25. $-\frac{1}{8}, 27$
26. $\pm\frac{\sqrt{3}}{9}, \pm 2i\sqrt{2}$
27. $-\frac{63}{5}, \frac{28}{5}$
28. 12, -2
29. $\frac{81}{25}, \frac{121}{16}$
30. $\frac{25}{16}$

EQUATIONS INVOLVING RADICALS

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|---------------------|-------------------|-----------------------|------------------------|
| 1. 0 | 11. 8 | 21. -2 | 32. $-\frac{2}{3}$ |
| 2. $-\frac{135}{8}$ | 12. 4 | 22. 27 | 33. -27, 3 |
| 3. \emptyset | 13. -1 | 23. 0, -1 | 34. $-\frac{64}{3}, 4$ |
| 4. \emptyset | 14. 3 | 24. $1, \frac{2}{9}$ | 35. $\frac{1}{4}, 1$ |
| 5. 0, 9 | 15. 9 | 25. $2, -\frac{2}{9}$ | 36. 1, 9 |
| 6. $\pm\sqrt{97}$ | 16. 8 | 26. 0, 9 | 37. \emptyset |
| 7. \emptyset | 17. \emptyset | 27. 25 | 38. $-\frac{255}{7}$ |
| 8. 3 | 18. $\frac{5}{4}$ | 28. 1 | |
| 9. $-\frac{8}{5}$ | 19. 8 | 29. 4 | |
| 10. \emptyset | 20. 0, 3 | 30. 0, 3, -3 | 39. 2, 1 |
| | | 31. -2 | 40. -1 |

OTHER TYPES OF EQUATIONS

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| 1. 5, -3, 4, -2 | 5. $\frac{63}{64}$ |
| 2. $-5, 3, \frac{-5 \pm 2\sqrt{10}}{5}$ | 6. $\frac{8}{125}$ |
| 3. $4, -2 \pm 2i\sqrt{3}, 1, -\frac{1}{2} \pm \frac{\sqrt{3}}{2}i$ | 7. $\frac{2}{9}, 1$ |
| 4. 4 | 8. 16 |

SUMMARY SHEET

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|---|-------------------------|
| 1. $\pm\frac{\sqrt{6}}{2}, \pm\frac{1}{2}i$ | 7. $-\frac{11}{14}, -1$ |
| 2. 2 | 8. $\pm 4i\sqrt{2}, 0$ |
| 3. $-\frac{2}{3}, \frac{3}{2}$ | 9. $\frac{49}{8}$ |
| 4. ± 3 | 10. $-\frac{2}{9}, 2$ |
| 5. $\frac{20 \pm \sqrt{2}}{4}$ | 11. $\frac{25}{4}$ |
| 6. -3 | 12. $-\frac{9}{16}, 0$ |